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10/576,049

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Martin Beck

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EXAMINER

CHAPMAN, GINGER T

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,049	<b>Applicant(s)</b> BECK ET AL.	
	<b>Examiner</b> Ginger T. Chapman	<b>Art Unit</b> 3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 15 and 17-29 is/are pending in the application.
- 4a) Of the above claim(s) 3-11, 17-20, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 15, 21 and 24-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Status of the Claims***

1. Claims 24-29 are added, claims 12-14 and 16 are previously cancelled, claims 1-11, 15 and 17-29 are pending in the application, claims 3-11, 17-20 and 22-23 are withdrawn from consideration as being drawn to a nonelected invention, claims 1, 2, 15, 21 and 24-29 are examined on the merits.

### ***Response to Arguments***

2. **Withdrawn rejections:**

3. The rejections of claim 1 under 35 USC 112, first and second paragraphs, made of record in the previous Office action, is withdrawn in view of Applicants' amendments to the claim and arguments presented in Remarks pp. 6-7, file date February 27, 2009.

4. Applicant's arguments with respect to claims 1-2, 15 and 21-29 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-2, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chmelir (CA 2 179 775 C) in view of Murphy (WO 95/15771).

5. With respect to claim 1, Chmelir discloses a hydrogel having a floatability (Abstract) and a thickening capability, the examiner notes that all hydrogels inherently possess a thickening capability because their gelling properties necessarily and inevitably result in thickening of solutions as the water-insoluble gels absorb liquid and swell, wherein the hydrogel thickens an aqueous solution or suspension starting from the surface of the solution or suspension, said hydrogel comprising superabsorbent polymer particles (p. 10, second paragraph), a hydrophobic compound (p. 6, last line; p. 7, 1<sup>st</sup> paragraph).

6. Chmelier discloses the claimed invention except for the hydrogel thickens the rest of the solution starting from the bottom of the container in the claimed percentages. Chmelier teaches that the hydrogel can be used for absorption of body fluids such as urine or blood, preferably for absorbent disposable articles and medical wastes (p. 10, 3d ¶) and water surfaces (p. 11, 2d ¶). Chmelier also teaches the hydrogel polymers can be mixed in a composition with other, non-floatable polymers and then placed in aqueous solutions and the different specific weights of the polymers will cause them to separate as the floatable hydrogel particles are separated in their

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swollen state. Chmelier teaches many other absorbent polymers that do not float on the surface of aqueous solutions unless comprising auxiliary agents which provide floatability (p. 4, 1<sup>st</sup> ¶).

7. Thus Chmelier teaches mixing the floatable superabsorbent hydrogel with non-floatable absorbent polymers for the production of absorbent materials. Murphy, at pp. 2, ll. 8-10 and ll. 16-25, provides motivation for hydrogels absorbing and gelling, i.e. thickening medical wastes upwardly from the bottom of a container while also distributing other polymers throughout the upper portion of the liquid in association with the hydrogel (p. 4, l. 16-24). Murphy teaches a non-floating hydrogel comprising superabsorbent polymer particles and a hydrophobic compound (p. 7, ll. 6-8; p. 10, l. 19 to p. 11, ll. 1-4p. 5, l. 16) poured onto the surface of solution in a container such that the hydrogel gels from the bottom of the container (p. 12, ll. 16-20). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to mix the hydrogel of Chmelier with the hydrogel of Murphy in the claimed percentages in order to obtain a hydrogel composition capable of thickening a solution from the surface and the bottom of a container.

8. With respect to claim 2, Chmelier discloses a solidification time of less than 120 seconds upon contact with the solution or suspension and having a blood absorbance of at least 10 g/g (p. 19, Table 1, Examples 16-21 and Comparison).

9. With respect to claim 15, Chmelier teaches a hygiene articles selected from incontinence articles, napkins, tampons and liners (p. 10, 3d ¶).

10. With respect to claim 21, Chmelier teaches biocidal, antimicrobial, antibacterial, perfume, scent, stabilizer and dye materials (p. 11, 3d ¶, last ¶; p. 11a).

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11. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chmelir in view of Murphy and further in view of Karapasha et al (US 5,306,487).

12. With respect to claim 24-26, the combination of Chmelir and Murphy disclose the claimed invention except for expressly disclosing the hydrophobic and optional hydrophilic compound are particles having an average diameter from 0.001 to 10  $\mu\text{m}$  (**claim 24**), and the hydrophobic compound is a silica or alumina (**claim 25**) or mixtures thereof (**claim 26**). Chmelir teaches hydrophobic compounds thus providing motivation for such (see claim 1, *supra*). Murphy teaches silicas as a component of the biocidal/ microbial/ fungal materials and teaches alumina compounds thus providing motivation for aluminas, but does not expressly disclose their hydrophobic properties (p. 7, ll. 6-8).

13. Karapasha teaches hydrogel comprising hydrophobicized silica and hydrophobicized mixtures of silicas and aluminas (c. 3, ll. 50-51) having average diameters from 1 to 15  $\mu\text{m}$  (c. 3, l. 59). One of ordinary skill in the art would recognize that rendering the compounds hydrophilic would improve their water absorption properties and would be an obvious modification. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the hydrophobic compounds of Chmelir and Murphy as taught by Karapasha since Karapasha states, at c. 1, ll. 56-58, that the benefit of such is that the resulting hydrogel particles are less dusty, easier to handle and exhibit improved control of odors.

14. With respect to the bottom end of the range of 0.001 to less than one micron, when the claimed range and the prior art range are very similar, here the range taught in the prior art of 1 to 15  $\mu\text{m}$  overlaps the claimed range of 0.001 to 10  $\mu\text{m}$ , the range of the prior art establishes prima facie obviousness because one of ordinary skill in the art would have expected the similar

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ranges to have similar properties. See *In re Paterson*, 65 USPQ 2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779. In addition, Karapasha characterizes the hydrophobic particles as very small and dusty, one of ordinary skill in the art would recognize that dust tends to float on the surface of a liquid due to surface tension of liquid while larger particles tend to sink to the bottom, therefore one of ordinary skill in the art would recognize that particle size and density can be utilized to provide floatability.

15. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chmelir in view of Murphy and further in view of Elmquist (US 4,302,369) and further in view of Frenz et al (US 2002/0128618 A1).

16. With respect to claim 28, the combination of Chmelir and Murphy disclose the claimed invention except for expressly disclosing a multivalent cation which is an aluminum ion. Elmquist, at c. 2, ll. 46-50, provides motivation to improve the dispersability and absorbent capacity of absorbent materials. Elmquist teaches surface treatments comprising aluminum ions (c. 2, l. 68). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the treatment of Elmquist to the hydrogel of Chmelir and Murphy since Elmquist states, at c. 3, ll. 1-2 and c. 6, ll. 7-9, that the benefit of such is that it enhances the wicking abilities of the hydrogel thereby improving overall absorbance.

17. The combination of Chmelir and Murphy disclose the claimed invention except for an optional surfactant of sorbitan ester. Frenz teaches hydrogels comprising sorbitan esters [0057]. Therefore it would have been obvious to one having ordinary skill in the art at the time the

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invention was made to treat the hydrogel of Chmelir and Murphy as taught by Frenz since Frenz states, at [0014], that the benefit of such is that it improves the permeability of the hydrogel.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Plischke et al (EP 0 631 768 A1) teaches mixtures of hydrogels having solidification times of at least 0.2 grams solution per second per gram hydrogel; Vallieres (US 5,595,731) teaches solidification time of less than one minute upon contact (c. 3, ll. 38-41); Cullen (US 4,853,266) teaches solidification time of about 25 seconds (c. 3, ll. 28-29); Lepoer et al (US 6,592,768 B1) teaches hydrogel, hydrophobic silicas and solidification time of within one minute (c. 5, ll. 21-22); Heitahaus et al (US 5,356,678) solidification in several seconds.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginger T. Chapman whose telephone number is (571)272-4934. The examiner can normally be reached on Monday through Friday 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ginger T Chapman/  
Examiner, Art Unit 3761  
06/03/09

/Patricia Bianco/  
Supervisory Patent Examiner, Art Unit 3772